

CLAIMS

1. A photoelectric conversion device wherein a pixel including a photoelectric conversion device for converting a light into a signal charge and a peripheral circuit including a circuit for processing said signal charge outside a pixel region in which the pixel are disposed on the same substrate, characterized by comprising:

a first semiconductor region of a first conductivity type for providing said photoelectric conversion device

a second semiconductor region of a second conductivity type that is same conductivity type of said signal charge; and

a third semiconductor region of the first conductivity type for providing said peripheral circuit;

wherein the impurity concentration of said first semiconductor region is higher than the impurity concentration of said second semiconductor region.

2. A photoelectric conversion device wherein a pixel including a photoelectric conversion device for converting a light into a signal charge and a peripheral circuit including a circuit for processing said signal charge outside a pixel region in which the pixel are disposed on the same substrate,

comprising:

a first semiconductor region of a first conductivity type for providing said photoelectric region,

5 a second semiconductor region of a second conductivity type that is same conductivity type of said signal charge; and

a third semiconductor region of the first conductivity type for providing said peripheral
10 circuit;

wherein said first and third semiconductor regions comprise impurity concentration peaks

3. The photoelectric conversion device according to claim 2, wherein the peak impurity
15 concentration of said first semiconductor region is higher than the peak impurity concentration of said third semiconductor region.

4. The photoelectric conversion device according to claim 2, wherein the peak impurity
20 concentration position of said first semiconductor region is disposed deeper than that of said third semiconductor region.

5. The photoelectric conversion device according to claim 2, wherein said first
25 semiconductor region has a structure wherein plural semiconductor regions having impurity concentration peaks are disposed in a depth direction inside said

substrate, and the impurity concentration of the impurity concentration peak formed in the deepest portion is higher than the impurity concentration of the impurity concentration peak formed at said
5 photoelectric conversion device side.

6. The photoelectric conversion device according to claim 2, wherein said first semiconductor region and third semiconductor region are formed by plural semiconductor regions having the
10 impurity concentration peaks, and, the peak impurity concentration of the region of the highest impurity concentration peak among plural regions for forming said first semiconductor region, is higher than the
peak impurity concentration of the region of the
15 highest impurity concentration peak concentration among from plural regions for forming said third semiconductor region.